



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/769,455	01/26/2001	Toshio Nakagishi	P20203	5450

7055 7590 07/19/2004

GREENBLUM & BERNSTEIN, P.L.C.  
1950 ROLAND CLARKE PLACE  
RESTON, VA 20191

EXAMINER

AGGARWAL, YOGESH K

ART UNIT	PAPER NUMBER
----------	--------------

2615

DATE MAILED: 07/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/769,455

Applicant(s)

NAKAGISHI ET AL.

Examiner

Yogesh K Aggarwal

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5-7,10-12,14 and 17 is/are rejected.
- 7) ☒ Claim(s) 2-4,8,9,13,15,16 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: ____.  |

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 5-7, 12, 14 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Sano et al. (US Patent # 5,952,714).

[Claim 1]

Sano et al. teaches a solid-state imaging device block (figures 1 and 2) comprising a metal plate having a flat surface, a backside surface opposite to said flat surface (figures 1, 2: 21, col. 4 lines 64-67, col. 5 lines 1-5), a projected surface projected by a predetermined height from said flat surface [Figures 1 and 2 show a projection surface above the opening 25], said projected surface being parallel to said flat surface [The projected surface shown is parallel to the flat surface], and at least one opening (figures 1, 2 : 25) formed on said projected surface and accessible through said backside surface (col. 4 lines 53-63, figures 1, 2 : 26); and a solid-state imaging device [The combination of CCD 27, attached electrode pads 28 with bumps 29 formed on the pads and the lead frame 24 is being collectively read as a solid state imaging device. Col. 5 lines 6-10] having a front surface for receiving light and a back surface [The solid state device has a front and back surface], said imaging device being secured to said metal plate by adhesive (figure 2: 30) applied at least to a

corner edge portion formed by the inner circumferential surface of said at-least-one opening of the metal plate and said back surface of the imaging device when said imaging device contacts said projected surface of said metal plate [Figure 2 discloses an adhesive 30 being applied to the back portion of the solid state imaging device (combination of 27, 28, 29 and 24) and the inner circumferential portion of the opening 25 when the device is in contact with the projected surface of the metallic package 21].

[Claim 5]

Sano et al. teaches that the projected surface has a top surface of a portion protruded from said flat surface of the metal plate (figures 1 and 2).

[Claim 6]

Sano et al. teaches that the flat surface is provided with an opening (figures 1, 2: 25) corresponding to the at-least-one opening of said projected surface (col. 4 lines 53-58). Figures 1 and 2 further disclose a protruded portion comprising a wall portion formed to surround said opening of the flat surface.

[Claim 7]

Figures 1 and 2 disclose that the opening of the flat surface is of a quadrangular shape, and said wall portion comprises a quadrilateral wall.

[Claim 12]

Sano et al. teach that the solid-state image sensing apparatus (Discussed in claim 1) disclosed in figures 1 and 2 is mountable to a video camera of high quality (col. 2 lines 19-24) which inherently requires fixing members for fixing the package (figures 1, 2: 21) onto an optical unit of the video camera.

[Claim 14]

Sano et al. teaches that the flat surface is provided with an opening (figures 1, 2: 25) corresponding to the at-least-one opening of said projected surface (col. 4 lines 53-58). Figures 1 and 2 further disclose a projected portion comprising a wall portion formed to surround said opening of the flat surface. Figures 1 and 2 also disclose that the opening of the flat surface is of a quadrangular shape, and said wall portion comprises a quadrilateral wall.

[Claim 17]

This is a method claim corresponding to apparatus claim 12. Therefore it has been analyzed and rejected based upon the claim 12.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (US Patent # 5,952,714) in view of Matsuhira et al. (US Patent # 6,204,896).

[Claim 10]

Sano et al. teaches an adhesive for gluing the four sides of the CCD but fails to teach "... that the viscosity of said adhesive is 1-30 Pa-s". However Matsuhira et al. teaches that the viscosity of the adhesive to be approximately 1000-6000 centipoise (1-6 Pa-s) at 25 C (col. 4 lines 27-38). Therefore taking the combined teachings of Sano and Matsuhira, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have the viscosity of the adhesive to be approximately 1-6 Pa-s. The benefit

of doing so would be so that the adhesive at this viscosity can expand by normal expansion without putting any external pressure as taught in Matsuhira (col. 4 lines 32-38).

[Claim 11]

Matsuhira teaches "... wherein said adhesive comprises an ultraviolet curing adhesive (col. 3 lines 54-57)".

*Allowable Subject Matter*

5. Claims 2-4, 8, 9, 13, <sup>15,</sup> 16, 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

a) As for claims 2, 13, 18 the prior art of record does not teach or fairly suggests a circuit board electrically connected to said imaging device, said circuit board being provided with an opening through which said projected surface of the metal plate passes so that said circuit board is disposed between said imaging device and said metal plate.

b) Claims 3, 4, 8 and 9 depend upon claim 2.

c) Claims 15 and 16 depend upon claim 13.

*Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Wataya et al. (US Patent # 6,693,674).

b) Kimba et al. (US Patent # 6,528,778).

- c) Uchino et al. (US Patent # 6,392,703).
- d) James F. Simon (US Patent # 5,596,229).
- e) Justin C. Bolger (US Patent # 5,072,283).
- f) Iida et al. (US Patent # 6,362,921).
- g) Matsumoto et al. (US Patent # 5,040,069).
- h) Ferland et al. (US Patent # 6,628,339).
- i) Johnson (US Patent # 5,861,654).
- j) Hatta (US Patent # 5,087,964).
- k) Shinbori et al. (US Patent # 4,594,613).
- l) Mitani et al. (JP Patent # 04291886).
- m) Kurihara et al. (JP Patent # 59046051).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K Aggarwal whose telephone number is (703) 305-0346. The examiner can normally be reached on M-F 9:00AM-5:30PM.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2615

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YKA



ANDREW CHRISTENSEN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600